

# ExxonMobil LLDPE

## LL 3001 Series

### Premium High Strength Film Resin

#### Description

LL 3001 resins are hexene copolymer LLDPE film resins.

Films made from LL 3001 resins have outstanding tensile and toughness properties. Superior strength properties, along with excellent drawability, make these very versatile packaging film resins. LL 3001 resins are available with blown film additive formulations, with or without antiblock. A heavily stabilized formulation for cast film processing is also available.

#### Applications

- Stretch film
- Frozen food packaging
- Ice bags
- Shipping sacks
- Premium trash bags

| Additive Package | PPA | Antiblock | Slip | Thermal Stabilizer |
|------------------|-----|-----------|------|--------------------|
| LL 3001.34       | Yes | 9000 ppm  | No   | Yes                |
| LL 3001.63       | Yes | No        | No   | Yes                |

| Resin Properties         | Test Based On     | Typical Value / Unit    |        |
|--------------------------|-------------------|-------------------------|--------|
| Melt Index               | ASTM D 1238       | 1.0 g/10 min            |        |
| Density                  | ExxonMobil Method | 0.917 g/cm <sup>3</sup> |        |
| Peak Melting Temperature | ExxonMobil Method | 124 °C                  | 256 °F |

#### Film Properties (@ thickness 25.4 μ (1 mil))

|                                |    |                   |         |           |
|--------------------------------|----|-------------------|---------|-----------|
| Tensile Strength at Yield      | MD | ASTM D 882        | 9 MPa   | 1350 psi  |
|                                | TD |                   | 10 MPa  | 1450 psi  |
| Tensile Strength at Break      | MD | ASTM D 882        | 58 MPa  | 8400 psi  |
|                                | TD |                   | 48 MPa  | 6980 psi  |
| Elongation at Break            | MD | ASTM D 882        | 500 %   |           |
|                                | TD |                   | 840 %   |           |
| 1% Secant Modulus              | MD | ASTM D 882        | 200 MPa | 28600 psi |
|                                | TD |                   | 240 MPa | 34500 psi |
| Haze                           |    | ASTM D 1003       | 14.9 %  |           |
| Gloss MD, 45°                  |    | ASTM D 2457       | 49      |           |
| Dart Drop Impact Strength, F50 |    | ASTM D 1709A      | 140 g   |           |
| Elmendorf Tear Strength        | MD | ASTM D 1922       | 440 g   |           |
|                                | TD |                   | 740 g   |           |
| Puncture Energy                |    | ExxonMobil Method | 3.1 J   | 27 in-lb  |

1. Film was made from LL 3001.63 on a 2.5 inch blown film line with a 2.5:1 blow-up ratio, a melt temperature of 405°F (207°C) and a 60 mil die gap.

LL 3001 resins can - in principle - be used in food contact applications in various EU Member States and in the USA (FDA). Migration or use limitations may apply. Please contact your ExxonMobil Chemical representative for more detailed information and/or actual compliance certification documents for the specific grade of interest.

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